adent describes the position of feet as follows on the day before the h Fame, first class destroyer, ku Naval Yard. The British ne-third of a mile from the gerine lay the Russians-Bobr. Gilvak-moored in line. losely-built town of Tongku reach, the ittle lower down the lay the Japanese nited States steamer es but otherwise she Monocacy took no part er Captalo was ordered to estrality, but she did some ork and wave shelter to

pened fire on the Algerine. In gerine replied, and shortly br Gil ak, and then the Ko-The I tis at the rollne time put in a few shells toward the forts from the ectacle was a really fine the forts and all the ships in the from the wharf and was was steamed rapidly down in absolute silence she sped the fee As she rounded the seer rose first from the Gilyak. seich and Bohr, and there was no tiking the ringing welcome that went up The fiven, lying at anchor sam had first to weigh and then turn shoulde, but at the bend she was only stern of the It's, and as the brave and the Lion beought up near the both vessels getting into close action rts were now delivering a heavy cande from their western faces at the six gun-

detached to join the Whiting in an attack e four Stetun destroyers lying alongside avalvard. As they approached, the Chicrews jumped upon the wharf and bolted Fame grappled one and toward it round to he Fafu a towboat belonging to ku Tug and Lighter Company, under the Macrae, grappled the next one the Fahwan, under Mr. made fast to the chird, and the was monring her prize she got h- aft stokehold with a small shell and nos beached till the shot stopper These four beautiful 32-knot de blow being abandoned without shot fired in their defence, are worth finom Here were four most per dern destroyers, and, given a couple 'a dark, rainy night and manned by craws, they could easily have acor most if not all of their enemies

ould not have been a single wellfor t o heavy, at other times so light were laid badly in line, and the satteme depression from the high was in the shells falling to explode had for in this way. The same gun would first on the port side of the

its course out a much more vigorous his before, while the fire from the great best up a lively fire. A collision mat was based and the ship being numped out she retained at her moorings. For some time she birers in the village pestered her worse than musfor the allies; they steamed about boldly We the fort reach to get closer to the forts in a

Here and there in the smoke and spray a impse would be had of a gallant little guntroped to the walst and working desperately. besthe bridge over the quarter deck a little steaming up the Scient, though four big athaiors close to the bridge were badly plerced maming up and down the reach, their heavy lew gerting into full swing again; and, above the brave little Llou, with her four large fors fying, steaming to any point where helids moving downward toward the south ery shor, which, passing inboard, cut into te forward boiler. She was at once a mass of team, her captain was hadly injured, and she Mch. As the light strengthened the storming arms could be seen about the north forts, to Orlandes and the Japanese close together nd the Russ and on the other side. All cheered and waved their arms in mutual encourage-

Retaitle when a magazine in the northern end dese fire for a time, but soon they showed enselves more determined than ever, and beittack had failed. Some of the heavy case-At this time also a greater MA. M the main magazine in the south er up and rose about one thousand feet

Into the air a dense black mountain of smoke and debris and burning powder, the concussion being terrible. Every gunboat stopped firing and the forts also, and every eye was turned upon the appalling sight. Then, after a few moments of comparative silence, broken only by the echoes shire Hills—Bad Lack in a Cracked Look.

OLDYANKEE SUPERSTITIONS lips I could a-kicked myself for not havin' thought of it.

"Guide left!' I bawis out after the other Captain, 'n added quick's I could, 'Can't ye also, and every eye was turned upon the BUTTER THAT WOULDN'T COME.

Safe Cures for Witches Up in the New Hamp-shire Hills—Bad Lack in a Cracked Look the subject and not let the talk get away from comparative silence, broken only by the echoes of the explosion and the former gun reports, a glorious cheer rose from the gunboats, the Russian, Japanese and British storming parties the destroyer crews and the merchant steamers, all united in one victorious shout which must have struck despair in the hearts of the Chinese garrison. It did so, for their fire gradually stackened and ceased at 6.43 A. M.

Shortly after 6 o'clock the storming partie advanged into position, and at about # 30 A. M. the British flag was hoisted on the north for: and afterward the Japanese. All resistance had From the south fort a dense mass of fugitives escaped across the plain and mixed with the inhabitants flying from their homes. During the morning the forts were completely occupied by the allies. A farge number of inese prisoners were employed in throwing the dead into the river. The garrison was 3,000 men, and they had about 1,000 casualties. Mosthe guns were in good order and several had never been fired.

Writing from Tientsin on June 20 the Standard's correspondent says: "Shell and fire have combined to wreck property and what these have spared the Cossacks have destroyed. The wanton destruction worked by the Russian troops has been indescribable. The residents have been compelled to leave their homes for some allotted place of shelter from the bombs, or because they have been doing home guard and volunteer duty. Yet, during their absence even when it has lasted only a few hours, their houses have been broken open, and their private property, business papers, and valuisolated residences apart from the beaten track, but right in the heart of the settlements, which are so small that they can be walked all over in ten minutes. Many persons have lost everything but the clothes they stand in simply in Other nationalities have had some share in this disgraceful business, I regret to say, even our own men not coming out quite clean handed; but the Cossacks are the worst and most continual offenders. Yet we owe our lives to the presence of the Russian force, and people bear behalf

'A great mistake was made at the outset in fancying this was a case of the Yang-tse riots over again and a potting pienic aga ast an ignoant, unarmed rabble. The unarmed rabble are fairly cute in their tactics and it is only by a very happy chance that their 4.7 shells have been of second-rate quality and not quite as up to the mark as their aim, or Tientsin would have been in ruins long since. It is commonly supposed that the Chinese will do nothing in the rain and under ordinary circumstances this is true enough. It is equally true that heavy rain ! put an end to the Tientsin massacre twenty years ago, and I believe there are other records the course of events being favorably influenced by the weather. But in this case more than one attack has actually been commenced in a downpour, and it has now rained heavily for two hours without affecting the battle in the This may seem a small matter, but it is one of the many indications that we are meeting the Chinese under abnormal conditions, and shall have to take the situation seriously

WITH THE EELS AND THE BONY GARS Phases of Life in One of the Aquarium's Tanks -Eets That Will Eat From the Hand.

Eels like killies. In fishing for eels the killie akes about as good bait as can be had, and they take kindly to them in captivity as they Most larger fishes, for that atter, are fond of killies, and many of the tanks at the Aquarium are kept supplied with billies to serve as food for the occupants. So for the benefit of the inhabitants there is

kept at the Aquarium a suprly of killies in the tank inhabited by the eels and the bony gars the bony gar being a fish with a long, ering, beak-like snout, with jaws that open ke a long, slender, tapering pair of scissors The gar, for the greater part of the e, suspends itself horizontally in the water, and just lies there thus, apparently motionless, iometimes a gar gets a killie, if one swims

shire Hills-Bad Lack in a Cracked Looking Glass-A Baptism Under Difficulties Some Death Warnings and Bellefs. Bostoy, Aug. 25.—They were having a neigh-orly gosalp the other evening. He is about fat and jolly and treasures his evening pipe the moonlit veranda. She is about 50 and the

head of the family next door that is to say, "I was readin' somethin' t' other day," he

began as the hig briar wood was lazily lit, "about Salem witchcraft an' I was thinkin' what a tremendous holt that belief in signs, witches, sperits 'n things had back even in the days when I was a boy. In fact ter day you go up inter Maine, where I was raised, an' you'll hear the old folks still te lin' o' their signs an you'll find they seem ter believe in many of 'em bout as much as they ever did." "Well, don't I remember them, though!" she

xclaimed "Why I have heard my mother tell searnestly of how she went out one morning the barn to milk and as she approached the parn door there was the old cow hung by her horns! Bewitched, sure as fate. Mother was so seared she was speechless for a moment. Then she dropped the pail, threw up her hands and exclaimed, 'Lord a Massy!' and the old cow came down. Now mother believed that, think, as much as she believed anything. went out some foggy morning and feeling from the dinness and uncertainty of things that here were likely to be witches around she happened to glance upon some outline that her overwrought mind immediately fixed or as her cow hung by her horns."

" N' I recollect how my mother was churnin once, said he, 'an' she churned an' churned an thurned; 'twas the old up and down dashe contraption they used in them days. Well, he butter wouldn't come. She see the devi had got inter the mess an' 'twas no use battlin gin the sperits. So she built a rousin' fire she takes the contrary mess of nter the old oven. That broke the spell, as they call it an' puttin' inter the churn a fres! s you please.

"I recall," she interposed, "how an old man whom we call Uncle Nat used t come to our house up on the bleak New Hampshire hill and tell us his famous experience in getting a load of shingles up over Scho dulty for its terrific pitch, and the difficulty and danger of ascending or descending it. ipping up and choking his oxen; that is, owng undoubtedly to ill-balancing and put-

be bewittened.

"When I was a little girl," she said, "I did the naughty thing one day of getting down the looking glass to play with. It was dirty and becoming consumed with a streak of neatness, thought I was doing a very house motherly. Steel part to the steel part of the control of the

and never to the last me

And the evening gossip was ended

BOARDING-HOUSE COURTSHIP Some of the Reasons Why It Is Not Highly Conducive to Matrimony.

From the Baltimore American Girls who board in the same house regard one another as mortal enemies and, when confor an after-tea talk, invariably t the pretriest of the tribe for a mithies cross-fire of remarks she dares not take offence

Her faults and bad temper are aired for e edification of the dapper clerk, who is aparently being won by her attractive ways he said young man at once receiving all stateents with credulity worthy of the veriest afant and congratulating himself on his esourse, during this exchange of confi-

o keep Miss Blank id probably rather

to call only a of her desire what caused s When she gazing boarders

A GRAVE-ROBBING GHOST. HUNT OF TWO MEN FOR ELK

One or Two Thousand Dollars - A Night Scare on Both Sides Suspicious of a Slain Medicine Man of the Stoux. Kirp, Mon., Aug. 30, Jewellers and collectors of curios recently awoke to the fact that elk tushes were scarce and valuable. From for ornaments. The tushes of an elk have the

OF DEAD INDIANS.

Indian Squaws That Wear Dresses Worth

w cents the price of a good tush went up. and up, until at present it is worth \$5 or more. The cause of this rise is the demand for them instead of being long, slender and sharp pointed like the boar's, they are thin and flat, with an utline much like that of a pear. The outer surface is covered with a substance known to naturalists as ivoroid, much finer grained than rue ivory, and shading from a pure white at When the Old Timer learned that elk tushe

had become so valuable, he mentally kicked nimself. In earlier years when collecting tries from the Indians, bows, shields, quivers, and all sorts of useful and ornamental articles of native manufacture, he had acquired, for he small equivalent of two bottles of fire water, a string of several thousand tushes. But, alasa generous and irresponsible moment, he had presented them to an acquaintance, and a tenderfoot at that, who thought that they would look well in the collection of curios he had in his Eastern home. However, there use of bewaiting his luck, so he hitched ip a team and drove over to the reservation. expecting to purchase a lot of tuehes from the Indians at old-time prices, and make a fortune. In a couple of hours he drew up in front of the home of Wide-eared-bug. The Old Timer hitched his team, and smoked a pipe with the Wide-eared-bug. They talked of other days, of their buffalo hunts, and their wanderings over the great plains. Finally the Old Timer brought the conversation around to the subact he was interested in-elk tushes.

"Bull-head's three wives," said the old Indian in answer to a question, "the youngest wife of Half-bear and the daughter of Duckfoot still have dresses ornamented with the tushes of the alk: all the rest are gone. Where Why they have been buried with their owner of course. Few, few, indeed, of those you used to know, remain with us. have become weary, and their spirits have departed to the Sand-hills

This was discouraging news, however, making is host a present of tobacco, the Old Timer visited the families mentioned, in urn, and tried to buy their elk tuebes, dresses and all. Not one of them would sell: they said that they wished to keep the dresses, which were heirlooms, and when they died to be buried in them, so they might present good appearance when they arrived at the Sand Hills and met all those who had gone

etter half when he related his experience hat evening. "The idea of those old wrinkled two dellars, when it's all I can do to keep myself supplied with 10-cent calicol there, isn't a white woman in Montana who owns

Well," the Old Timer said, "there's a man in Montana who is going to own one or two of them and he is sitting in front of you and talking to you right now. Maris, I'm going to ob some of those squaw graves. you say?" he continued, turning to the scribbler: "will you go in with me? I believe we can make a stake, and even if we don't, 'twill

can make a state, anyhow."

The Scribbler was willing. The next afternoon the would-be grave robbers saddled their horses and struck off through the pills for the reservation, taking a route by which they would be unlikely to meet any one, indian or white. The Old Timer knew that a wife of Elk Moon, long since dead, had owned a beautiful using anyhead gown. If he could find her grave, he was sure that the expedition would be successful. The sun was setting when they climbed a high ridge commanding a view of Elk Moon's camp. Dismounting before they reached the top, they crept cautiously to the crest, and with their glasses swept the valley below. There was the camp half a dozen rude cabins, and as many technical controlled.

share of the proceeds will just about pay for that new buggy I want, and I want it right

Several days passed by and then one after-several days passed by and then one after-seen an Indian from Elk Moon's camp, looking r some stray ponies, came to the ranch. After had stowed away such a large dinner that int Maria thought he would burst and had en provided with pipe and tobacce, he unided a wild and hair-raising story of a ghost at had desecrated the graves of his kindred of stampeded some ponies so badly that they that had desecrated the graves of his ki and stampeded some ponies so badly tha had left the country. At least, they co

lest people in the daytime; they go away some where and hide. So we went out and looked around. The graves of our relatives had been pulled down. We went over there and found that the ghost had torn open the boxes. Skeletons, blankets, quits, were scattered all around; a let of weapons and medicine things had been placed in a little pile and the elk tush dress of Elk Moon's dead wife was missing.

"I suppose the ghost took it," the Old Timer remarked.

"Yes, of course," the Indian around think we know the state of think we know the state of the state of think we know the state of the state of think we know the state of the st

remarked

'yes, of course,' the Indian replied. 'We'
think we know who the shoet was, a long time
ago Elk Moon killed a Sloux medicine man in
battle. Likely the Stoux's spirit has been
wandering around all these years looking for
his slayer, and now that he has found where
Elk Moon lives we fear he will do us great
harm. Only last night a woman heard him
prowling about the lodges, and we had to get
up and build fires to scare him away.'

All this the Old Timer translated to Aunt
María and the Scríbbler, as the Indian frequently paused and took a few whiffs from his
pipe. After a little the Indian continued:

And now Lethand, I did not come here to-day
in search of ponies alone. I also came to ask
your aid. We Indians are a poor people: after
our relatives and friends are once dead and
put away we dare not louch them again; for
our religion forbids it. Our hearts are sad to
see their remains scattered out there on the
prairie, food for the wolves and playthings
of the winds and storms. But white men
are different they fear nothing on this earth,
nor anything above or below fit therefore we
beg you to come over and replace these poor
remains the ghost has scattered about. We
will pay you for it.

"I want no pay," the Old Timer replied. "I'll
o over to-morrow and willingly do what you

"I want no pay," the Old Timer replied. "I'll over to-morrow and willingly do what you wrapped his robe about him. "I home and tell my people that you

arose and wrapped his robe about 10m. It will now so home and tell my people that you will come, they will be glad.

"Jonathan, said Auni Maria, after the Indian had gone, "I think you and the Scribbler played a real mean trick on those poor people, and let me tell you that you'll steal no more elk tusks from their graves. God forgive me, I fear I have always judged them harship, I now know that they have hearts and feelings like differently than I have in the past

VETERAN CITY EMPLOYEES. Not Very Many of Them Outside of Three Departments-Some of the Exceptions.

In three municipal departments, the Board of Education, the Fire Department and the Police Department, veterans of official service are umerous; in the other departments of the city county government the victseitudes of olitics, the chances of promotion and the request overhauling of civil service rules have made the number of such veterans small. In 1869 Stephen MacCormack occupied the office of clerk to the Superintendent of Lamps and Gas. He is now Superintendent of Lamps and Gas, the head of which department is the Commissioner of Public Buildings, Lighting and Supplies. Mr. McCormack has a record of thirty one years in this department. Henry P. Mulvaney has been Under Sheriff since September. 1874: Frank J. Burns, deputy sheriff since 1988, and James Rickard, Sheriff's messenger since January, 1874 E. J. Freedman has been in the law department since 1881, and Andrew

office since 1857: George P. Gott, bookkeeper in the Police Department since 1858; J. F. Goulds bury, auditor of accounts in the Comptroller, department since re was the camp ind as many tend as many tend as many tend as many tend as cottonwood et a cottonwood et. Between the ceiver of Taxes office has held that place's ince fill a level, open dred yards wide feer bench, the August 1873, the clerk of the Chief of Police

Campbell has been its chief clerk since

August, 1857

ment, Seth Hawley, since April in the same year.

The contract clerk in the Department of Highways has been in office since 1888, the chief engineer of the Department of Water Supply since 1878, and the first assistant engineer in the same department since 1872. The second assistant engineer in the Department of Water Supply has been in office since 1875, the cashier of the Water Register's Bureau since 1879, and among the clerks in that department is one who has been in the office since 1875 and another since 1886. There are few veterans in service in the Street Cleaning Department, the record the Water Register's Bureau since 1879, and among the cierks in that department is one who has been in the office since 1873 and another since 1886. There are few veterans in service in the Street Cleaning Department, the record clerk having been in office since Nov. 7, 1885.

J. T. Nagle of the Bureau of Municipal Statistics has been in office since 1885. The assistant secretary in the Department of Docks and Ferries, Charles J. Farley, has been in office since November. 1887, the apportionment clerk of the same department since October. 1872, and the secretary of the Board of Health has been in office since 1868, though he appears on the recently published statement of officials and employees as having entered that department on Jan. 1, 1898. The requisition clerk of the Department of Public Charlies has been in office since 1873; the visitor for the outdoor poor for the same department since 1875, the deputy superintendent of Believue Hospital has been in office there since 1866 and his assistant since April, 1878.

The chief deputy assistant commissioner of taxes and assessments has been in office since July, 1875, and other deputies date their and July, 1875.

The chief deputy assistant commissioner of taxes and assessments has been in office since July, 135, and other deputies date their appointments from June, 1874, and June, 1882. One of the cierks in that department has been employed there since 1873, and another since 1875. He was an assistant alderman before he became a clerk, an office row obsolete under the city administration. The secretary of the Board of Assessors has been in office since 1873, one of the cierks of the City Court has been in office there since January, 1878, when it was still the Marine Court, and one of the attendants of that tribunal dates his appointment to 1881. The deputy clerk of the Court of Special Sessions has been in office since October, 1872, and four of the attendants date their appointment for the definition of the attendants date their appointment and the series of the definition of Sessions has been in office since October, 1872, and four of the attendants date their appointment to Jan. 1, 1879, or earlier. One of the interpreters was appointed in 1874. The oldest appointee of the County Clerk's office entered service there in 1874.

POINTING A GUN.

In What Circumstances It May Be Done Without Violating Law.

From the Baltimore Sun The action of Justice Poe last Friday in fining Jacob Katz, a Lexington-street jeweiler, for pointing a gun at Harry N. Abergrombie, a lawyer, who refused to leave Mr. Katz's store when ordered to do so, has raised the questio of the rights of storekeepers in such cases. Mr. Katz was found guilty of assault by the Justice and was fined \$25 and costs.

Upon the basis of questions propounded by a subscriber of the Sun the law of the case is explained as follows by William C Smith a former Deputy State's Attorney of Balti-

"Pointing a loaded gun or pistol at anothe

"Pointing a loaded gun or pistol at another in a threatening manner is an assault, and it is immaterial that the person so using the gun did not actually know that it was loaded Solaiso, if the person assaulted had reasonable cause to believe that it was loaded it is an assault, though it was not loaded.

If any one enters the home of another and makes himself offensive he can be ejected by force, but the degree of force used must be reasonable. The question of the reasonableness of force used is governed by the facts of the particular case.

"A policeman by virtue of his office, and without warrant, has a right to enter any house, the door of which is unfastened, or when invited to do so by the master thereof, in which there is a noise amounting to a breach of the peace, and to arrest any person disturbing the peace there in his presence.

There is a distinction to be drawn between the rights of a master in his home and his rights in his public store. In the latter case there is an implied invitation to the general public to come in, and a person entering such an establishment has greater privileges, and, consequently, the master less rights. Hence he is compelled to act with greater discretion in dealing with unwelcome intruders. If A orders B to leave As store at the point of a pistol and B refuses to go, whereupon A shoots and kills B. A is guilty of murder."

SCIENCE STUDIES RIVERS. NOVEL EXPERIMENTS OF PROP.

ENGELS IN GERMANY. The Problem of Making Rivers Flow According to Rule Under Investigation-Currents

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-Work of Dresden Flussbau Laboratory. Speaking of the development of the scientific spirit in Germany, an Englishman once said; Why, gentiemen, even the winds of the Fathers land blow scientifically." If he had said, "Even the waters of the Fatherland flow scientifically, the same time he would have had the honor of announcing the first news of an important scientific departure. For German science has the rivers of the Empire flow according to rule and with this in view an extensive experimental criver building laboratory), has been set up at Dresden in Saxony in connection with the famous technical school of that city. It directly under the control and support of the Government, and its work has now advanced infficiently to warrant some description of the

experiments. It is the way of a river to do very much as it pleases, gouging out an embankment hare and filling in a channel there, sometimes undermining a tower and often breaking dams and plers placed in its way to keep it in order. Vast ums of money have been spent by all the great nations, and spent injudiciously, as the Germans believe, in dredging channels and in protecting the banks of rivers. In Germany the question is even more important than here, for the reason that the country is more densely peopled. the land is more valuable, and changes in the course of flow in a river are therefore more destructive and costly. Moreover, the rivers of Germany are not, generally speaking, so wift and long as those of America, and it is needful to keep them at the height of effectives less as to navigability. It was with the idea of bringing scientific

nethods to bear on these problems that the Flussbau Laboratorium was established about hree years ago. Prof. Engels, the director, egan his work in the typical German way. hat is, by investigating his subject thoroughly pefore attempting to offer practical suggest ons. A large room is set aside in the basement of the Dresden Technical School, and here, elevated some four feet from the floor, Prof. Engels has had constructed an iron trough r tank about seven feet in width and two feet deep, reaching the full length of the room, At the upper end of this trough a large tank is placed with appliances for permitting the water which it contains to flow into the trough in any required volume and in such a way than The experimental trough is filled with sand and the course of a river is laid out, at angles lown the trough through the sand. It is at first of even depth throughout, and the banks are protected by small bags of shot. Into this miniature river the water is allowed to flow at a given speed and Prot. Engels studies closely all those places where the sandy bottom is washed out, where it is filled in, where the banks have a tendency to cave away and where new banks are building up. As the water flows it naturally carries much sand entirely out of the trough. All this is caught and preserved in an ingenious manner. As the water leaves the trough it is carried over tin riba. behind which the sand is deposited, finally falling, entirely clear of all soft, into a large tank at the lower end of the trough. Here & pump is constantly at work driving the water. which thus comes through the river, back to the upper tank, thus using it over and over and enabling the river to flow on without interruption for weeks. Prof. Engels has sands of various colors

which he uses for showing the exact position of deposit of sand wash in his rivers. A red sand ed slowly into the mouth of the river would show in bars and banks half way down or more. indicating exactly where the river was, at any given time, adding land. A little later blue sand used in the same way might show the formation of still other bars, and the removal of the red sand bars previously produced. Controlling the water as he does, Prof. Engels can have a freshet at any time he sees fit, noting ts effect on his river, or he can imitate the aluggish flow of dry autumn. If his river is exceedingly crooked he can produce a new channel artificially as it might be produced by a sudden great flushing of water, and he can build dams, breakwaters, plers, docks, bridges fect which these produce on the river, whether they tend to deepen or to obstruct the channels the influence of each as regards the formation of bars and banks and so on, and how deep pile ing must be driven to escape under washing by a burrowing river -all facts of theutmost import tance to engineers. The sand washed entirely out of the trough and caught by the tin ribs cam be gathered up and measured, the quantity hus obtained furnishing valuable data as to he rate of deposit of rivers of various volume and velocity of flow. Prof. Engels also studies he effect of flow in rivers not having sandy channels, and he uses gravel and stone, constructing islands and gravel ribs and watch Many of the rivers of Germany have been

plotted with great accuracy not only as to helr shore lines, but with regard to the contons of their channel beds. With these maps and contours in hand Prof. Engels is now engaged in laying out to an exact scale various sections of the more important German rivers. He duplicates exactly every curve, builds in every crib and breakwater, and then turns on the water at the ordinary rate of flow of the river under investigation. A stretch of the Elba near piece of work it is, the cribs all accurately placed and their banks held in place with bank of shot. When the water was turned on Prote Engels indicated where the bars were being built up, where the channel was deepening, where hollows were being filled in, and so on, rib might serve to preserve a deep channel and at the same time cause the river to deposits its sand in shallows, and where the river might well be filled up and add to the usefulness of the shore properties. In each case where a change seemed desirable Prof. Engels experiments with piers and cribs to see which will be the more effective. In this way he will be able, from actual experiments, to make practical suggestions for river improvements. The trouble has always been that engineers said that a crib here or a breakwater there would accomplish certain results, but when the crib was built at large expense it frequently happened that the irresponsible river did some thing quite unexpected, thereby discounting the effectiveness of man's handwork. But by testing these engineering schemes before-hand in his miniature river Prof. Engels hopes to do away with uncertainty and loss-and the Government has so much confidence in his scheme that it is supporting it.

The keynote of the whole work is, as Prof.

Engels expresses it, to make the river regulate tself, to put down cribs and other river-building devices in such a way that the river will keep its own channel clear and deep enough for navigation purposes, thereby saving dredg-ing and at the same time fill such spaces as the engineer wishes filled. He believes that more thorough knowledge of rivers and a careful series of experiments with actual river courses will enable man to do almost what he wills with rivers, and do it much more cheaper than ever before. The work, as he says, only just beginning, but he and other distin-guished engineers and scientific men who are interested in the work believe that there is a great future for the work. They see the time when all rivers will be regulated by the advice of river-building experts who have labora-tories, such as the Flusshau Laboratorium, in which tests and experiments can be made.

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tomer .- Adv.